DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-022495
Date Inspected: 12-Apr-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name:	See Report Below			**CWI Present:**	☑ Yes	☐ No		
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A	
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: Orthotropic Box Girders

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the project site and observed the following work performed by American Bridge/Fluor Enterprises (AB/F) personnel at the locations noted below:

A). Longitudinal "A" Deck Stiffeners
B). QA Verification

The QA Inspector observed the onsite inspection performed by the contractor's QC Inspection personnel. The inspection was performed on various field fit-up of weld joints and the Complete Joint Penetration (CJP) groove welds of the west Orthotropic Box Girders (OBG's). The welding was performed utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specifications (WPS's).

A). Longitudinal "A" Deck Stiffeners

The QAI also observed the CJP welding of the longitudinal stiffener located at the deck access hole identified as WN: 5W-PP29.5-W5-LSW. The welding was performed by Xiao Jian Wan ID-9677 utilizing the WPS identified as ABF-WPS-D15-1012-3, Rev. 0. The welding parameters were verified by the QC inspector Gary Ehrsam and appeared to comply with the contract specifications. The CJP welding was not completed during this shift.

B). QA Verification

At the request of the Quality Control lead inspector, Bonifacio Daquinag Jr., the QAI randomly verified the QC

visual inspection of the CJP weld identified as WN: 10E-11E-A-LS4, LS5and 9E-10E-A-LS3 and LS6. The QAI verification was performed to verify the welding and the visual weld inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QAI verification it appeared that the welds and the QC inspection complies with the contract documents.

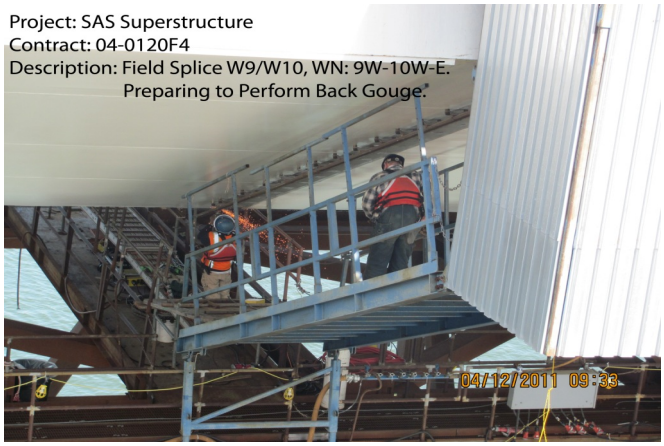
Later in the shift the QAI performed a random ultrasonic verification test of the Complete Joint Penetration (CJP) groove weld as mentioned in the preceding paragraph. A total area of approximately 10% was ultrasonically tested to verify the weld and testing by QC meet the requirements of the contract documents. The examination was performed in the first and second leg and an ultrasonic test report TL 6027, was generated on this date.

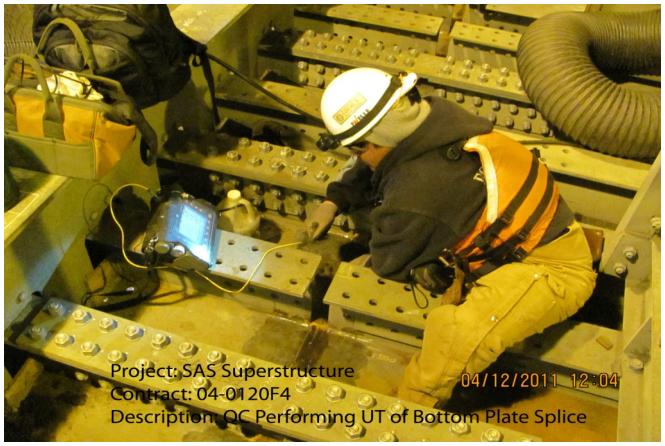
This QA Inspector also performed a daily review and update of the field document control tracking records regarding the Orthotropic Box Girders, Longitudinal and Transverse "A" Deck Stiffeners and Deck Access Holes.

QA Summary

The welding was performed in the vertical (3G) position utilizing the E7018-H4R and E9018-H4R low hydrogen electrodes. The 3.2 mm electrodes were stored in electrically heated, thermostatically controlled oven after removal from the sealed containers. The exposure limits of the electrodes appeared to comply with the minimum storage oven temperature of 120 degrees Celsius as per the contract documents. The WPS were also utilized by the QC inspector, Gary Ehrsam as a reference to monitor the welding operation, to verify the welding parameters and verify the minimum preheat and the interpass temperatures. The welding parameters and surface temperatures were verified by the QC inspector's utilizing a Fluke 337 clamp meter for the electrical welding parameters and Tempil Heat Indicators for verifying the preheat and interpass temperatures. At the time of the observation no issues were noted by the QAI.

The digital photographs below illustrate some of the work observed during this scheduled shift.





Summary of Conversations:
There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of American Bridge/Fluor welding, inspection and N.D.E. testing personnel scheduled for this shift.

This QAI was informed by the Lead QC inspector, Bonifacio Daquinag, Jr., and QC inspector, Steve Jensen, that

the incorrect electrode, E9018-H4R, was utilized during the welding of the upper interior closure plate splice plate at the lower weld joint identified as BC which is located at the 83 Meter elevation of the south tower shaft. Mr. Daquinag informed this QAI that this issue would be entered in the QC daily report and he would contact William Norris, Document Control Personnel, in regards to generating and submitting of an NCR. Later in the shift, William Levell informed this QAI that Chuck Kanapicki was aware of this issue and would generate an NCR in regards to this issue.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer